

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S11	16	318/254.ccls. and ((hall\$2 sensor) and sensorless).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:45
S12	10	318/254.ccls. and ((hall\$2 sensor) and position and sensorless).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:46
S13	13	318/254.ccls. and ((hall\$2 sensor detector) and position and sensorless).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:49
S14	3	318/254.ccls. and ((hall\$2 sensor detector) and position and (emf bemf cemf electromotive) and sensorless).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:50
S16	0	((hall\$2 sensor detector) and position and (emf bemf cemf electromotive) and sensorless).ab. and (position\$4 near4 absen\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:51
S15	0	318/254.ccls. and ((hall\$2 sensor detector) and position and (emf bemf cemf electromotive) and sensorless).ab. and (position\$4 near4 absen\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:51
S17	1	((hall\$2 sensor detector) and position and (emf bemf cemf electromotive) and sensorless).ab. and (position\$4 near9 absen\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:52
S18	120	318/254 and (hall\$2 ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive) and (position\$4 near9 ( absen\$4 (no\$2 adj3 (sens\$4 detect\$4))))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:54
S21	5	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive) and (position\$4 near9 ( absen\$4 )) and (position near4 (calcuat\$4 estimat\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:55
S20	21	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive) and (position\$4 near9 ( absen\$4 ))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:55

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S19	123	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive) and (position\$4 near9 ( absen\$4 (no\$2 adj3 (sens\$4 detect\$4))))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:56
S22	4	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive) and (position\$4 near9 ( absen\$4 (no\$2 adj3 (sens\$4 detect\$4)))) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same (position\$4 near9 ( absen\$4 (no\$2 adj3 (sens\$4 detect\$4)))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 07:57
S23	13	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position\$4 near9 ( absen\$4 (no\$2 adj3 (sens\$4 detect\$4)))) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same (position\$4 near9 ( absen\$4 (no\$2 adj3 (sens\$4 detect\$4)))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:35
S25	10	("20050073273"   "4528486"   "4546293"   "4686437"   "4761703"   "5357181"   "5469032"   "5650779"   "5652494"   "6236179").PN. OR ("7002318").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/09 08:39
S24	2	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position\$4 near9 ( absen\$4 (no\$2 adj3 (sens\$4 detect\$4)))) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (fail\$4 fault\$4 malfunction\$4 abnormal\$4)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:39

## EAST Search History

S26	5	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (fail\$4 fault\$4 malfunction\$4 abnormal\$4)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:42
S27	5	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (fail\$4 fault\$4 malfunction\$4 abnormal\$4))) and (fail\$4 fault\$4 malfunction\$4 abnormal\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:44
S28	5	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (fail\$4 fault\$4 malfunction\$4 abnormal\$4 (no\$2 adj2 work\$4) (no\$2 adj2 operat\$4) broken))) and (fail\$4 fault\$4 malfunction\$4 abnormal\$4 (no\$2 adj2 work\$4) (no\$2 adj2 operat\$4) broken)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:46
S30	10	("20050073273"   "4528486"   "4546293"   "4686437"   "4761703"   "5357181"   "5469032"   "5650779"   "5652494"   "6236179").PN. OR ("7002318").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/09 08:49

## EAST Search History

S31	0	S30 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:50
S29	6	318/254 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:51
S33	7	S30 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and (fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:53
S36	9	S30 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:54
S38	6	S30 and (hall\$2 encoder resolver ((sensor detector) near4 position)) and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)) and ((calcuat\$4 estimat\$4 deriv\$4 determin\$4) near4 position)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:56

## EAST Search History

S35	84	"318"/\$ and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 08:59
S39	230	"318"/\$ and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) and ((position near4 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:01
S34	19	"318"/\$ and (hall\$2 encoder resolver ((sensor detector) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 estimat\$4)) and ((position near4 (calcuat\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:02
S41	99	S40 and (hall\$2 encoder resolver ((sensor detector transducer) near4 position)).ab. and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) and ((position near4 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) ) and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:04

## EAST Search History

S43	2	"6989641"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:09
S40	231	"318"/\$ and (hall\$2 encoder resolver ((sensor detector transducer) near4 position)) and position and (emf bemf cemf electromotive current ) and (position near4 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) and ((position near4 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:11
S42	54	S40 and (hall\$2 encoder resolver ((sensor detector transducer) near4 position)).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:13
S45	71	S44 and (hall\$2 encoder resolver ((sensor detector transducer) near9 position)).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:17
S47	15	S45 and brushless	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:22
S46	13	S45 and 318/254	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:22
S44	282	"318"/\$ and (hall\$2 encoder resolver ((sensor detector transducer) near9 position)) and position and (emf bemf cemf electromotive current ) and (position near9 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) and ((position near9 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) same ((sensor detector encoder resolver hall\$4) near4 (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:25

## EAST Search History

S49	574	S48 and "318"/\$	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:28
S51	453	S48 and (hall\$2 encoder resolver ((sensor detector transducer) near9 position)).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:29
S50	122	S48 and "318"/\$ and (brushless (brush\$2 adj2 less))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 09:29
S54	18	("4509110"   "4695941"   "4761703"   "4943758"   "5254921"   "5357181"   "5469032"   "5514978"   "5661380"   "5677611"   "5689170"   "5739649"   "5912539"   "6046553"   "6054827"   "6064172"   "6359405"   "6683435").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/09 10:05
S53	0	("6989641").URPN.	USPAT	OR	ON	2007/10/09 10:05
S48	4258	(hall\$2 encoder resolver ((sens\$4 detect\$4 transducer) near9 position)) and position and (emf bemf cemf electromotive current ) and (position near9 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) and ((position near9 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) same ((sens\$4 detect\$4 encoder resolver hall\$4) near4 (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:10
S55	824	(hall\$2 encoder resolver ((sens\$4 detect\$4 transducer) near9 angle)) and position and (emf bemf cemf electromotive current ) and (angle near9 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) and ((angle near9 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) same ((sens\$4 detect\$4 encoder resolver hall\$4) near4 (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:11

## EAST Search History

S56	17	S55 and (hall\$2 encoder resolver ((sensor detector transducer) near9 position)).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)).ab. and (brushless (brush\$2 adj2 less))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:26
S58	22	S57 and rotor	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:27
S57	66	S55 and (hall\$2 encoder resolver ((sensor detector transducer) near9 position)).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:30
S59	76	S55 and (failsafe (fail\$2 adj2 safe) (fault\$2 adj2 tolerant))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:32
S60	19	S55 and ((failsafe (fail\$2 adj2 safe) (fault\$2 adj2 tolerant)) same (hall\$2 encoder resolver ((sensor detector transducer) near9 position)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:33
S61	30	S55 and ((failsafe (fail\$2 adj2 safe) (fault\$2 adj2 tolerant)) same (hall\$2 encoder resolver ((sensor detector transducer) near9 (angle position))))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:34
S62	141	"318"/\$ and ((failsafe (fail\$2 adj2 safe) (fault\$2 adj2 tolerant)) same (hall\$2 encoder resolver ((sensor detector transducer) near9 (angle position))))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:35
S63	49	"318"/\$ and ((failsafe (fail\$2 adj2 safe) (fault\$2 adj2 tolerant)) same (hall\$2 encoder resolver ((sensor detector transducer) near9 (angle position)))) and ((hall\$2 encoder resolver ((sensor detector transducer) near9 (angle position))))).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:36



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S64	49	"318"/\$ and ((failsafe (fail\$2 adj2 safe) (fault\$2 adj2 tolerant)) same (hall\$2 encoder resolver ((sensor detector transducer) near9 (angle position)))) and ((hall\$2 encoder resolver ((sensor detector transducer) near9 (angle position))))).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:38
S66	6	("4060753"   "4169990"   "4278921"   "5821708"   "6064175"   "6570360").PN. OR ("6774593").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/09 10:44
S65	61	"318"/\$ and ((failsafe (fail\$2 adj2 safe) (fault\$2 adj2 tolerant)) same (hall\$2 encoder resolver ((sens\$4 detect\$4 transducer) near9 (angle position)))) and ((hall\$2 encoder resolver ((sens\$4 detect\$4 transducer) near9 (angle position))))).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 10:46
S68	118	S67 not S65	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:13
S69	2	"6989641" and (angle position)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:27
S67	179	"318"/\$ and ((failsafe redundan\$4 (fail\$2 adj2 safe) (fault\$2 adj2 tolerant)) same (hall\$2 encoder resolver ((sens\$4 detect\$4 transducer) near9 (angle position)))) and ((hall\$2 encoder resolver ((sens\$4 detect\$4 transducer) near9 (angle position))))).ab. and (redundan\$4 error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:27
S70	2	"6989641" and (angle position) and (fault\$4 fail\$4 abnormal\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:28

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S72	5	(sensorless near4 encoder) .ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:32
S71	2	"6989641" and (angle position\$4 angular) and (fault\$4 fail\$4 abnormal\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:32
S75	113	(sensorless near4 (resolver hall transducer encoder)).ab\.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:33
S74	0	(sensorless near4 (resolver encoder)).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:33
S73	5	(sensorless near4 (resolver encoder)) .ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:33
S76	11	(sensorless near4 (resolver hall transducer encoder)).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:34
S77	19	(sensorless near9 (resolver hall transducer encoder)).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:35
S78	5	((sensorless near9 (transition\$4 switch\$4)) near4 (resolver hall transducer encoder))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:37
S79	78	((sensorless near9 (transition\$4 chang\$4 changover switch\$4)) near4 (resolver hall\$4 transducer (position\$2 near4 (sens\$4 detect\$4)) encoder))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:39
S81	18	("3909688"   "4575666"   "4827203"   "5343970"   "5376869"   "5461293"   "5532671"   "5637974"   "5811957"   "5920175"   "5999946"   "6073713"   "6104113"   "6137258"   "6163119"   "6163127"   "6321144"   "6564110").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/09 12:42

## EAST Search History

S80	36	((sensorless near9 (transition\$4 chang\$4 changover switch\$4)) near4 (resolver hall\$4 transducer (position\$2 near4 (sens\$4 detect\$4)) encoder)) and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:45
S82	7	((sensorless near9 (transition\$4 chang\$4 changover switch\$4)) near4 (resolver hall\$4 transducer (position\$2 near4 (sens\$4 detect\$4)) encoder)) and ((error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)) near4 (resolver hall\$4 transducer (position\$2 near4 (sens\$4 detect\$4))))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/09 12:47
S83	2	("6750626").URPN.	USPAT	OR	ON	2007/10/09 12:56
S84	15	(US-20020143450-\$).did. or (US-6906491-\$ or US-5652494-\$ or US-5650779-\$ or US-7002318-\$ or US-5637974-\$ or US-6246343-\$ or US-6011376-\$ or US-6984948-\$ or US-6774593-\$ or US-6984954-\$ or US-6750626-\$ or US-6859139-\$ or US-5723858-\$ or US-6989641-\$). did.	US-PGPUB; USPAT	OR	ON	2007/10/13 19:03
S85	4260	(hall\$2 encoder resolver ((sens\$4 detect\$4 transducer) near9 position)) and position and (emf bemf cemf electromotive current ) and (position near9 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) and ((position near9 (calcuat\$4 deriv\$4 determin\$4 estimat\$4)) same ((sens\$4 detect\$4 encoder resolver hall\$4) near4 (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/13 19:04
S52	43	S48 and (hall\$2 encoder resolver ((sensor detector transducer) near9 position)).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)).ab. and (brushless (brush\$2 adj2 less))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/13 19:04

## EAST Search History

S86	40	S85 and (hall\$2 encoder resolver ((sensor detector transducer) near9 position)).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)).ab. and (brushless (brush\$2 adj2 less)) and tim\$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/13 19:07
S87	19	S85 and (hall\$2 encoder resolver ((sensor detector transducer) near9 position)).ab. and (error fail\$4 fault\$4 malfunction\$4 abnormal\$4 ((no\$2 adj2 (work\$4 operat\$4 function\$4)) broken)).ab. and (brushless (brush\$2 adj2 less)) and tim\$4 and (tim\$4 same (estimat\$4 calculat\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/13 19:08
S88	15	(US-20020143450-\$).did. or (US-6906491-\$ or US-5652494-\$ or US-5650779-\$ or US-7002318-\$ or US-5637974-\$ or US-6246343-\$ or US-6011376-\$ or US-6984948-\$ or US-6774593-\$ or US-6984954-\$ or US-6750626-\$ or US-6859139-\$ or US-5723858-\$ or US-6989641-\$). did.	US-PGPUB; USPAT	OR	ON	2007/10/13 19:13
S89	11	S88 and (position\$4 angle) and (estimat\$4 calculat\$4) and tim\$4 and ((calculat\$4 estimat\$4) same tim\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/13 19:17
S90	11	S88 and (position\$4 angle) and ((calculat\$4 estimat\$4) same tim\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/13 19:23
S91	11	S88 and (position\$4 angle) and ((calculat\$4 estimat\$4) same (count\$4 tim\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/13 19:29
S92	4	S88 and (position\$4 angle) and ((calculat\$4 estimat\$4) same (counter timer))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/10/13 19:30
L1	6	((("6906491") or ("6984948") or ("6774593"))).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2007/12/09 15:23
L2	19	((("5986419") or ("6984954") or ("6750626") or ("7002318") or ("6906491") or ("6989641") or ("5723858") or ("6774593") or ("6984948"))).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2007/12/09 15:26